III. REMARKS

Claims 1-19 are pending in this application. By this amendment, claim 19 has been amended. Applicant does not acquiesce in the correctness of the rejections and reserves the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicant reserves the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is respectfully requested.

In the Office Action, claims 4-7, 10, 13, 15, and 18-19 are rejected under 35 U.S.C. §112 as allegedly being indefinite. Claims 1-19 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Terrell *et al.* (U.S. Patent Pub. No. 2003/0210686 A1), hereafter "Terrell," in view of McAllister (U.S. Patent No. 6,876,625), hereafter "McAllister." Claims 1-19 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable under Terrell in view of Nair *et al.* (U.S. Patent Pub. No. 2002/0103921), hereafter "Nair." Applicant respectfully traverses these rejections.

A. REJECTION OF CLAIMS 4-7, 10, 13, 15 AND 18-19 UNDER 35 U.S.C. §112

The Office has asserted that claims 1-19 are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Office asserts that the amending of the claims to include the term "physically replacing" contradicts a portion of the specification that references "automatically replaces." Applicant respectfully traverses this rejection. Initially, Applicant submits that the portion of the

specification to which the Office refers is a restatement of a portion of the original form of claim 1 that has not been altered. Thus, claim 1 reads directly on this statement, and claim 4 simply further refines it. To this extent, Applicant asserts that, rather than contradicting the language of the claim and the specification, the claim language is complementary in that it specifies how the failed router card is automatically replaced, that is, by being physically replaced.

Furthermore, the term "physically replacing," rather than contradicting the specification as the Office contends, is supported by the specification. For example, the specification recites

> Referring now to Fig. 4, a backup router card 28B being moved from backup card array 16 by switched fabric is shown. As indicated above, replacement system of the switched fabric includes a combination of hardware and software (e.g., robotics) necessary to replace a failed router card with a backup router card. Included with this is a replacement mechanism 34, which mechanically disconnects a failed router card from a primary port facility and moves it to the extended bay. Replacement mechanism 34 then mechanically disconnects backup router card 28B from backup card array 16 and connects it to the primary port facility where the failed router card was disconnected. Each backup router card 28-D connects to the backup card array 16 and the primary port facilities via male-female connections. As shown, backup router cards 28A-D are equipped with male connections 36 that are received by female connections 38 in backup card array 16. Similar female connections exist on the primary port facilities as shown in Fig. 2 (e.g., serial connection ports 21). Thus, replacement mechanism 34 will engage backup router card 28B and disconnect it from backup card array 16 in the direction shown by arrow 40. The disconnected backup router card 28B will then be moved into position and connected to the primary port facility in the direction shown by arrow 42. Bus 32 is shown in Fig. 4 to further illustrate the communication link between backup router cards 28A-D. As indicated above, bus 32 forms a communication link between the primary port facilities and the router card array. Page 8, line 16 through page 9, line 13.

As can be seen from this passage, and the accompanying figure, the claimed invention, *inter alia*, physically disconnects the failed card (e.g., using robotics), physically moves the failed router card to the extended bay, physically disconnects the backup router card in the backup card array, physically moves the backup router card to the primary port facility, and physically

connected in the primary port facility to physically replace the failed router card with the backup router card. Thus, the specification supports the claim language. Accordingly, Applicant requests that the rejection be withdrawn.

B. REJECTION OF CLAIMS 1-19 UNDER 35 U.S.C. §103(a) OVER TERRELL IN VIEW OF McALLISTER

With regard to the 35 U.S.C. §103(a) rejection over Terrell in view of McAllister, Applicant asserts that the combined features of the cited references do not teach or suggest each and every feature of the claimed invention. For example, with respect to independent claims 1 and 8, Applicant submits that the cited references fail to teach or suggest, *inter alia*, "[a] network router having an internal automated backup, comprising: ...a card array having at least one unutilized backup router card," and similarly claimed as "[a] network router having an internal automated backup, comprising: ...a card array having unutilized backup router cards," in claim 14. The Office admits that Terrell does not explicitly teach unutilized backup router card. Instead, the Office relies on a passage of McAllister, which teaches "[n]etwork connections 76a may be re-routed or diverted as at 76b from an active routing entity 68 to an inactive routing entity 70 upon a failure of the active routing entity 68." Col. 21, lines 33-36. However, the inactive routing entity of McAllister is not a card within a router, but is instead an entire routing entity. This is further illustrated by the description of the related art of McAllister, that "...to ensure a switchover between distinct routers in a manner that is transparent to host which use a failed router." Col. 3, lines 54-56. To this extent, the inactive routing entity of McAllister is not a card within a router, but is instead a distinct router.

In contrast, the claimed invention includes "[a] network router having an internal automated backup, comprising: ...a card array having at least one unutilized backup router card." Claim 1. As such, the unutilized backup router card of the claimed invention is not a distinct router as is the routing entity in McAllister, but is instead a router card that is a component of a network router. Thus, the unutilized backup router card as included in the claimed invention is not taught or suggested by inactive routing entity of McAllister. Accordingly, Applicant respectfully requests that the Office withdraw its rejection.

With further respect to independent claim 14, Applicant respectfully submits that the references cited by the Office fail to teach or suggest, *inter alia*, a switching system for physically replacing the failed router card with the unutilized backup router card. Instead, the passages of Terrell cited by the Office teach that "[m]embers, links, and routers may each incorporate multiple units and be organized to provide redundancy or fail-over capacity to avoid a single failure from disrupting communication," and that "[t]he interface between network 101 and such a subsystem may provide redundancy, fail-over, multiple or expanded use of network ports, access controls, security (e.g., functions of a conventional firewall), protocol conversion (e.g., functions of a bridge), and/or priority flow controls (e.g., functions of a router a discussed herein). Page 6, par. 0066 and 0070. However, although the passages cited by the Office teach providing redundancy, fail-over capacity, etc., they do not teach the manner in which they are provided.

The Office further cites a passage of Terrell that describes "...a fabric [that] is an entity having ports that routes frames between its ports...that may include multiple switches, each

switch being an entity defined as a fabric element having ports, a path selector, an address manager, a fabric controller, a router, and a switch construct that transports frames between ports as directed by the router." Page 25, par. 0202. To this extent, the fabric of Terrell may be used to transport frames between ports. However, Terrell never teaches or suggests that the fabric described on page 25 is what is used to provide the redundancy, fail-over capacity, etc., described on page 6. Even assuming *agruendo*, that Terrell does teach that it is the fabric that provides the redundancy, fail-over capacity, etc., as the Office appears to content, Terrell does not teach that its fabric physically removes and replaces the routers, but only that the switches of the fabric transport frames between ports (i.e., direct the path of the frames). Page 25, par. 0202. Furthermore, McAllister only teaches re-routing or diverting network connections, and not physically replacing one routing entity with another. Col. 21, lines 33-36.

The claimed invention, in contrast, includes "...a switching system for physically replacing the failed router card with the unutilized backup router card." Claim 14. As such, the switching system of the claimed invention does not merely transport frames between ports as does the fabric of Terrell or re-route network connections as in McAllister, but instead, *inter alia*, physically replaces the failed router card with an unutilized backup router card. For the above reasons, the fabric of Terrell does not teach or suggest the switching system as included in the present invention. McAllister does not cure this deficiency. Accordingly, Applicant requests that the rejection be withdrawn.

With respect to claim 19, Applicant respectfully submits that the cited references fail to teach or suggest, *inter alia*, that the replacement mechanism physically disconnects the failed

router card from the primary port facility, physically moves the failed router card to an expanded bay, physically disconnects the unutilized backup router card from the card array, physically moves the unutilized backup router card from the card array to the primary port facility from which the failed router card was moved, and physically connects the unutilized backup router card to the primary port facility from which the failed router card was moved. As argued above, neither Terrell nor McAllister physically remove and connect components, but instead only re-route the connections between components. Furthermore, neither Terrell nor McAllister physically connect a backup component to the same port facility from which the failed component was moved. In contrast, the claimed invention includes "...wherein the replacement mechanism physically disconnects the failed router card from the primary port facility, physically moves the failed router card to an expanded bay, physically disconnects the unutilized backup router card from the card array, physically moves the unutilized backup router card from the card array to the primary port facility from which the failed router card was moved, and physically connects the unutilized backup router card to the primary port facility from which the failed router card was moved." Claim 19. As such, the replacement mechanism of the claimed invention does not merely re-route connections as do Terrell and Nair, but instead physically disconnects the failed router card from the primary port facility, physically moves the failed router card to an expanded bay, physically disconnects the unutilized backup router card from the card array, physically moves the unutilized backup router card from the card array to the primary port facility from which the failed router card was moved, and physically connects the unutilized backup router card to the primary port facility from which the failed router card was moved.

Thus, the re-routing of connections in Terrell and Nair is not equivalent to the physical replacement of one router card with another in the same bay as included in the claimed invention. Accordingly, Applicant requests that the Office's rejection be withdrawn.

With respect to the Office's other arguments regarding dependent claims, Applicant herein incorporates the arguments presented above with respect to independent claims. Furthermore, Applicant submits that all dependant claims are allowable based on their own distinct features. Since the cited art does not teach each and every feature of the claimed invention, Applicant respectfully requests withdrawal of this rejection.

C. REJECTION OF CLAIMS 1-14 UNDER 35 U.S.C. §103(a) OVER TERRELL IN VIEW OF NAIR

With regard to the 35 U.S.C. §103(a) rejection over Terrell in view of Nair, Applicant respectfully submits that the combined features of the cited references do not teach or suggest each and every feature of the claimed invention. For example, with respect to independent claims 1 and 8, Applicant submits that the cited references fail to teach or suggest, *inter alia*, "...a card array having at least one unutilized backup router card," and similarly claimed as "...a card array having unutilized backup router cards," in claim 14. The Office admits that Terrell does not explicitly teach an unutilized backup router card. Instead, the Office relies on passages of Nair, which teach DSRs that are carrier-class routers (Par. 0030), are independent of other DSRs (Par. 0031), do not affect other DSRs when they crash (Par. 0031), may have back-up DSRs, may be hot swappable (Claim 9) and may be associated with other DSRs which assume the function of the first DSR upon failure (Claim 10). However, simply because a DSR is

specified as a back-up DSR does not necessitate that it is unutilized prior to assuming its back-up function. Furthermore, simply because the primary router on the first router card is associated with the secondary router on the second router card, such that the secondary router assumes the function of the first router upon failure of the first router, it is not implicit that the secondary router is unutilized prior to assuming the function of the primary router. Accordingly, nowhere in the passages cited by the Office or elsewhere does Nair specify that its back-up DSR or secondary router card is unutilized.

In contrast, the claimed invention includes "a card array having at least one unutilized backup router card." Claim 1. As such, the backup router card of the claimed invention is not merely a component about which the prior status is unspecified such as the back-up DSR and secondary router of Nair, but is instead an unutilized backup router card. Thus, the unutilized backup router card as included in the claimed invention is not taught or suggested by the back-up DSR and secondary router of Nair. Accordingly, Applicant respectfully requests that the Office withdraw its rejection.

With further respect to independent claim 14, Applicant respectfully submits that the cited references also fail to teach or suggest, *inter alia*, a switching system for physically replacing the failed router card with the unutilized backup router card. As argued above, Terrell does not teach or suggest this function. Furthermore, Nair only teaches back-up DSRs and that a secondary router assumes the function of a first router upon failure, not physically replacing a faulty DSR with an unutilized one. The claimed invention, in contrast, includes "...a switching system for physically replacing the failed router card with the unutilized backup router card."

Claim 14. As such, the switching system as included in the present invention does not merely transport frames between ports, as does the fabric of Terrell or assume the function of a first router as does the secondary router of Nair, but rather, *inter alia*, physically replaces the failed router card with an unutilized backup router card. For the above reasons, the references do not teach or suggest the switching system as included in the present invention. Accordingly, Applicant requests that the rejection be withdrawn.

With respect to claim 19, Applicant respectfully submits that the cited references fail to teach or suggest, *inter alia*, that the replacement mechanism physically disconnects the failed router card from the primary port facility, physically moves the failed router card to an expanded bay, physically disconnects the unutilized backup router card from the card array, physically moves the unutilized backup router card from the card array to the primary port facility from which the failed router card was moved, and physically connects the unutilized backup router card to the primary port facility from which the failed router card was moved. As argued above, neither Terrell nor Nair physically remove and connect components, but instead only re-route the connections between components. Furthermore, neither Terrell nor Nair physically connect a backup component to the same port facility from which the failed component was moved. In contrast, the claimed invention includes "...wherein the replacement mechanism physically disconnects the failed router card from the primary port facility, physically moves the failed router card to an expanded bay, physically disconnects the unutilized backup router card from the card array, physically moves the unutilized backup router card from the card array to the primary port facility from which the failed router card was moved, and physically connects the unutilized

backup router card to the primary port facility from which the failed router card was moved." Claim 19. As such, the replacement mechanism of the claimed invention does not merely re-route connections as do Terrell and Nair, but instead physically disconnects the failed router card from the primary port facility, physically moves the failed router card to an expanded bay, physically disconnects the unutilized backup router card from the card array, physically moves the unutilized backup router card from the card array to the primary port facility from which the failed router card was moved, and physically connects the unutilized backup router card to the primary port facility from which the failed router card was moved. Thus, the transporting of frames between ports in Terrell and the assuming of the function of a first router by the secondary router Nair do not teach or suggest to the physical replacement of one router card with another in the same bay as included in the claimed invention. Accordingly, Applicant requests that the Office's rejection be withdrawn.

With regard to the Office's other arguments regarding dependent claims, Applicant herein incorporates the arguments presented above with respect to independent claims listed above. In addition, Applicant submits that all dependant claims are allowable based on their own distinct features. However, for brevity, Applicant will forego addressing each of these rejections individually, but reserves the right to do so should it become necessary. Accordingly, Applicant respectfully requests that the Office withdraw its rejections.

IV. CONCLUSION

In light of the above, Applicant respectfully submits that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the number listed below.

Respectfully submitted,

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Ronald A. D'Alessandro
Reg. No.: 42,456

Hoffman, Warnick & D'Alessandro LLC
Three E-Comm Square
Albany, New York 12207
(518) 449-0044
(518) 449-0047 (fax)